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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,774	06/18/2002	Aloys Wobben	205.001	2619

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EXAMINER

TSAL, CAROL S W

ART UNIT PAPER NUMBER

2857

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,774

Applicant(s)

WOBBEN, ALOYS

Examiner

Carol S Tsai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-14, 16-22, and 24-34 is/are rejected.
- 7) ☒ Claim(s) 15 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 9. 6) ☐ Other:

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The disclosure is objected to because of the following informalities:

Headings, such as "Title of the Invention", "Cross-References to Related Applications" "Background of the Invention" "Brief Summary of the Invention" and "Detailed Description of the Invention" are not included in conjunction with associated content.

Appropriate correction is required.

Claim Objections

3. Claims 15 and 23 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, claims 15 and 23 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 16-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, it is not understandable what is meant by “detecting whether a deviation between the second operating acoustic spectrum and the first reference acoustic spectrum exceeds a second threshold”, because no comparison between the second operating acoustic spectrum and the first reference acoustic spectrum has been claimed by Applicant.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 9-11, 24, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,076,405 to Schoess.

Schoess discloses a method of acoustically monitoring a wind power installation having a plurality of components including at least rotor, blades, the method comprising: detecting an operating acoustic spectrum generated by at least one of the components during operation of the wind power installation (see

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Figs. 2, 3, and 5-7; col. 3, lines 19-41; col. 4, line 29 to col. 5, line 38; and col. 7, line 46 to col. 9, line 2); comparing the operating acoustic spectrum to a reference acoustic spectrum; detecting a deviation between the operating acoustic spectrum and the reference acoustic spectrum; and detecting whether the deviation between the operating acoustic spectrum and the reference acoustic spectrum exceeds a threshold (see col. 5, lines 8-14 and col. 6, line 17 to col. 7, line 25).

As to claims 10 and 11, Schoess also discloses the reference acoustic spectrum being an acoustic spectrum produced by the component during normal operation (see col. 5, line 61 to col. 6, line 5).

As to claim 24, Schoess also discloses a method of acoustically monitoring a wind power installation having a plurality of components including at least rotor blades, the method comprising: recording a first noise spectrum generated by at least one component during operation of the wind power installation at a first output power level (see Figs. 2, 3, and 5-7; col. 3, lines 19-41; col. 4, line 29 to col. 5, line 38; and col. 7, line 46 to col. 9, line 2); comparing the first noise spectrum to a first reference noise spectrum; detecting deviations between the first noise spectrum and the first reference noise spectrum; communicating the deviations to a remote monitoring center; and communicating signals representative of the sounds that caused the deviations between the first noise spectrum and the first reference noise spectrum to the remote monitoring center (see Figs. 7 and 8; col. 5, lines 8-14; col. 6, line 6 to col. 7, line 25; and col. 8, lines 13-26).

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As to claim 26, Schoess also discloses generating an acoustic spectrum database using the recorded noise spectrums (see col. 6, lines 17-29).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12, 21, 22, 27, 33 and 34, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Schoess in view of U. S. Patent No. 6,231,306 to Khalid.

As noted above, with respect to claims 12, 21, 22, 27, 33, and 34, Schoess discloses the claimed invention, except for the operation of the wind power installation being automatically terminated when the deviation between the operating acoustic spectrum and the reference acoustic spectrum exceeds the threshold.

Khalid teaches the operation of the wind power installation being automatically terminated when the deviation between the operating acoustic spectrum and the reference acoustic spectrum exceeds the threshold (see col. 1, lines 24-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Schoess's method to include the operation

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of the wind power installation being automatically terminated when the deviation between the operating acoustic spectrum and the reference acoustic spectrum exceeds the threshold, as taught by Khalid, in order that corrective action may then be taken to prevent the stall from occurring (see Khalid, col. 2, lines 13-14).

10. Claims 13, 14, 25, 16-20, and 28-32, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,076,405 to Schoess.

As noted above, with respect to claims 13, 14, 25, and 28, Schoess discloses the claimed invention, except for repetitively detecting the operating acoustic spectrum generated by the component of the wind power installation; repetitively comparing the detected operating acoustic spectrums to a reference acoustic spectrum; and detecting whether the comparison between the detected operating acoustic spectrums to a reference acoustic spectrum exceeds a threshold.

The Examiner takes Official Notice that it is known to duplicate or multiply components in order to duplicate or multiply their functions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Schoess's method to include repetitively detecting the operating acoustic spectrum generated by the component of the wind power installation; repetitively comparing the detected operating acoustic spectrums to a reference acoustic spectrum; and detecting whether the comparison between the detected operating acoustic spectrums to a reference acoustic spectrum exceeds a threshold, in order that operation of rotor blades can be

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continuously monitored to prevent the accident mishaps caused by a main rotor failure leading to loss of life and aircraft from occurring.

As to claims 16-20, Schoess also discloses a method of acoustically monitoring a wind power installation having a plurality of components including at least rotor blades, the method comprising: detecting a first operating acoustic spectrum generated by at least one component during operation of the wind power installation at a first power output level (see Figs. 2, 3, and 5-7; col. 3, lines 19-41; col. 4, line 29 to col. 5, line 38; and col. 7, line 46 to col. 9, line 2); comparing the first operating acoustic spectrum to a first reference acoustic spectrum; and detecting whether a deviation between the first operating acoustic spectrum and the first reference acoustic spectrum exceeds a first threshold (see col. 5, lines 8-14 and col. 6, line 17 to col. 7, line 25).

Schoess does not disclose detecting a second operating acoustic spectrum generated by the component during operation of the wind power installation at a second power output level; comparing the first operating acoustic spectrum to a second reference acoustic spectrum; detecting whether a deviation between the first operating acoustic spectrum and the first reference acoustic spectrum exceeds a first threshold; and detecting whether a deviation between the second operating acoustic spectrum and the first reference acoustic spectrum exceeds a second threshold.

The Examiner takes Official Notice that it is known to duplicate or multiply components in order to duplicate or multiply their functions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Schoess's method to include a second operating acoustic spectrum generated by the component during operation of the wind power installation at a second power output level; comparing the first operating acoustic spectrum to a second reference acoustic spectrum; detecting whether a deviation between the first operating acoustic spectrum and the first reference acoustic spectrum exceeds a first threshold; and detecting whether a deviation between the second operating acoustic spectrum and the first reference acoustic spectrum exceeds a second threshold, in order that operation of rotor blades can be continuously monitored to prevent the accident mishaps caused by a main rotor failure leading to loss of life and aircraft from occurring.

As to claims 29-32, Schoess also discloses the first reference noise spectrum being a noise spectrum produced by the component during normal operation and while the wind power installation is operating at a first power output level (see Fig. 7 and col. 4, line 29 to col. 5, line 47).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bolonkin disclose methods and facilities for the utilization of flow (air, water) energy.

Wobben discloses a wind power installation comprising a rotor having at

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least one rotor blade for converting the kinetic energy of the wind into mechanical energy, an adjusting device for individually adjusting at least one rotor blade, a generator for converting the mechanical energy of the rotor into electrical energy, and an operative connection between the rotor and the generator for transmitting the mechanical energy of the rotor to the generator.

Wobben disclose a rotor blade and a wind power installation having a rotor blade provided with a rotor blade trailing edge, wherein the rotor blade tapers towards the rotor blade trailing edge.

Breitbach et al. disclose a profile edge of an aerodynamic profile.

Appa discloses wind turbine apparatus including an upright mast with support bearings underlying and rotatably supporting a hub assembly having inner and outer coaxial shafts telescopically related but radially spaced to permit independent rotation about a generally horizontal axis.

Schoess discloses an acoustic rotor monitor that is an autonomous self-powered measurement instrument which can detect embedded and hidden fatigue cracks in remotely inaccessible devices such as helicopter rotor system components.

Shvetsky discloses an ultrasonic stroboscope being used to inspect an object rotating at a first frequency to determine if the rotating object has any defects.

Rollet et al. disclose a rudder bar system for a helicopter controlled in yaw

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by acting on the tail rotor or an equivalent device has a capability, as a function of the parameters representative of the current flight status of the helicopter, of either automatically continuously recentering the forces on the rudder bar, which cancels out the residual static forces and gives the pilot a tactile sensation close to that given by a friction-type rudder bar, or allowing the pilot fully to feel the countering action of an elastic return device such as a spring.

Walter et al. disclose a process and device for detecting fouling of an axial compressor by measuring of pressure fluctuations within at least one of the stages of said compressor in the region of the compressor housing by means of at least one pressure sensing device, deriving a frequency signal from the signals delivered from said pressure sensing device, checking whether each of said frequency signals comprises at least one characteristic peak in the region of a characteristic frequency assigned to one of said compressor stages, and deriving a fouling parameter from said frequency signal, which parameter depends on a peak parameter indicative of the form of said characteristic peak and indicating the status of fouling of the compressor.

Diamond et al. disclose a laser scanning device being employed in conjunction with a unique blade mounting assembly to provide for the noncontact inspection of turbojet engine blades.

Martinez Parra discloses a system for the generation of electrical energy from wind energy consisting of a domed building and a large dimension impeller mounted thereupon.

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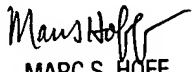
Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. Tsai whose telephone number is (703) 305-0851. The examiner can normally be reached on Monday-Friday from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703) 308-1677. The fax number for TC 2800 is (703) 308-7382. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (703) 308-1782.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 308-7382. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. Tsai

08/10/03


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